

REMARKS

Claims 1-4 are pending in the present application, of which claim 1 is independent and is amended. Applicants believe that the present application is in condition for allowance, which prompt and favorable action is respectfully requested.

I. DRAWINGS

Enclosed herewith is amended Figure 2. Applicant respectfully requests the Examiner to accept these Figures as amended because they correct informalities pointed out by the Examiner.

II. REJECTION UNDER 35 U.S.C. §112

The Examiner rejected independent claim 1 and dependent claims 2-4 thereon for having an element without sufficient antecedent basis. Claim 1 has been amended to provide sufficient antecedent basis and not to narrow the scope of the claims. Therefore, Applicant respectfully requests the withdrawal of the rejections under 35 U.S.C. §112.

III. REJECTION UNDER 35 U.S.C. §103

The Examiner rejected claims 1 and 3 under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,206,824 issued to Arazi (hereinafter "Arazi") in view of U.S. Patent No. 4,959,832 issued to Bardell, Jr. (hereinafter "Bardell"). This rejection is respectfully traversed in its entirety.

To establish a prima facie case of obviousness for a claimed invention, all the claim elements must be taught or suggested by the prior art. (MPEP 2143.03)

Arazi discloses a simple Linear Feedback Shift Register (LFSR) multiplication circuit and a means for controlling a modular multiplication. Arazi, col. 4, lines 49-53. In the rejection, the Examiner admitted that Arazi fails to disclose a non-linear operation, but relied upon Bardell to allegedly cure this deficiency. Applicant respectfully disagrees.

Bardell discloses the desirability of employing feedback arrangements for a LFSR which produce a maximum number of distinct patterns. This generates sequences of binary pattern vectors which are more structurally independent. Bardell, col. 7, lines 31-56 and Abstract. Applicant submits that the production of a maximum number of distinct patterns as taught by Bardell is not a non-linear operation as in claim 1. Therefore, since Bardell does not disclose

non-linear operation, neither Arazi nor Bardell, separately or combined, teach or suggest the claimed subject matter.

Moreover, neither Arazi nor Bardell, separately or combined, disclose or even suggest a LFSR structured in accordance with a recurrence relation. Neither Arazi nor Bardell, separately or combined, disclose or even suggest modular multiplications implemented through pre-computed look-up tables. Neither Arazi nor Bardell, separately or combined, disclose or even suggest performing a non-linear operation on a selected portion wherein the selected portion is selected so that pairwise distances between elements in the selected portion are distinct values.

Since neither Arazi nor Bardell, separately or combined, teach or suggest all the claim elements, Applicant respectfully submits that the Examiner has failed to set forth a prima facie case of obviousness and respectfully requests that the rejections of independent claim 1 be withdrawn.

Applicant also submits that claim 3 is allowable based on its dependency from an allowable base claim as well as other novel features included therein.

Therefore, Applicant respectfully requests a withdrawal of the rejection under 35 U.S.C. §103 for at least the foregoing reasons.


CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: June 29, 2004

By: 
Jae-Hoe Choi, Reg. No. 45, 288
(858) 651-5469

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121-1714
Telephone: (858) 658-5787
Facsimile: (858) 658-2502